Patent Claims

1. Shelf storage facility (1)
comprising a plurality of shelf bays (35) whereof each presents a shelf (41) with an upper side,
a plurality of product supports (42) whereof one at a time is associated with a shelf bay (35) and whereof each presents a supporting surface for products (48) to be stored,
guiding means (36, 37) fixed to the shelf, whereof each is disposed in a shelf bay (35) and which equal each other,
guiding means (43, 44) fixed to said product supports (42), whereof each is associated with one product support (42), which means equal each other whilst they are complementary to said guiding means (36, 37) fixed to the shelf, and
a storage and retrieval device (4) designed for being moved in front of each of said shelf bays (35).

2. Shelf storage facility according to Claim 1, characterised in that said shelf bays (35) are disposed in groups and that the shelves (41) of one group are connected to each other.

3. Shelf storage facility according to Claim 1, characterised in that said shelf bays (35) are arranged in groups and that the shelves (41) of one group are connected to each other in an integral manner.

4. Shelf storage facility according to Claim 1, characterised in that said shelf bays (35) are arranged in groups and that the shelves (41) of one group are disposed in a horizontal plane.

5. Shelf storage facility according to the introductory clause of Claim 1, characterised in that all shelf bays (35) present the same depth, measured in a direction orthogonal on a plane in which said storage and retrieval device (4) moves when it is positioned from one shelf bay (35) to another shelf bay (35).

6. Shelf storage facility according to Claim 1, characterised in that said shelf bays (35) present different widths by groups.

7. Shelf storage facility according to Claim 5 or 6, characterised in that a respective shelf bay (35) is open to the respective laterally adjacent shelf bays (35).

8. Shelf storage facility according to Claim 1, characterised in that said guide means (36, 37) fixed to the shelf are formed by the geometry of the respective shelf (41).

9. Shelf storage facility according to Claim 1, characterised in that said shelf (41) includes as guiding means, on its upper side, a guiding channel (35) open to the top and extending in the longitudinal direction of the shelf (41).

10. Shelf storage facility according to Claim 1, characterised in that said shelf (41) presents two plane surfaces (36, 37) extending in a V-shaped configuration relative to each other and passing with this relative arrangement through the depth of the respective shelf bay (35).

11. Shelf storage facility according to Claim 1, characterised in that said shelf (41) of a respective shelf bay (35) is merely formed by said two surfaces (36, 37) extending in a V-shaped configuration relative to each other.

12. Shelf storage facility according to Claims 11, characterised in that said surfaces (36, 37) extending in a V-shaped configuration relative to each other are integral with each other.

13. Shelf storage facility according to Claim 11, characterised in that said surfaces (36, 37) extending in a V-shaped configuration relative to each other enclose an angle of 90° therebetween.

14. Shelf storage facility according to Claim 1, characterised in that said shelf bays (35) are disposed in groups and that said shelves (41) of one group are formed by a corrugated plate (32).

15. Shelf storage facility according to Claim 14, characterised in that said plate (32) is connected to a beam (31) fastened on a shelf rack (2, 17), at an edge (33) remote from said storage and retrieval device (4).

16. Shelf storage facility according to Claim 15, characterised in that said beam (31) is fastened in said shelf rack (2, 17) for vertical adjustment.

17. Shelf storage facility according to Claim 1, characterised in that a plurality of shelf bays (35) is disposed in a rack (17) and that said rack (17) is supported in said shelf rack (2) in a mobile manner.

18. Shelf storage facility according to Claim 1, characterised in that two shelf racks (2, 17) are disposed at a distance from and opposite each other and that said storage and retrieval device (4) is provided between said shelf racks (2, 17).

19. Shelf storage facility according to Claim 1, characterised in that said product supports (42) are so designed that they rest by their underside directly on the respective shelf (41).

20. Shelf storage facility according to any Claim 1, characterised in that the underside of said product support (42) is adapted to the upper side of the associated shelf (41).

21. Shelf storage facility according to Claim 1, characterised in that said product support (42) presents positioning means (47) on its upper side in order to align and/or orient products (48) located on said product support (42).

22. Shelf storage facility according to Claim 1, characterised in that said product support (42) includes, in its upper side, a receiving channel (47) open in the upward direction and extending in the longitudinal direction of said product support (42).

23. Shelf storage facility according to Claim 1, characterised in that said product support (42) two plane surfaces (43, 44) which extend in a V-shaped configuration relative to each other and pass through the length of the respective product support (42) with this relative arrangement.

24. Shelf storage facility according to Claim 1, characterised in that said product support (42) of a respective shelf bay (35) is merely formed by said two surfaces (43, 44) extending in a V-shaped configuration relative to ach other.

25. Shelf storage facility according to Claim 24, characterised in that said surfaces (43, 44) extending in a V-shaped configuration relative to ach other are integral.

26. Shelf storage facility according to Claim 24, characterised in that said surfaces (43, 44) extending in a V-shaped configuration relative to each other enclose an angle of 90° therebetween.

27. Shelf storage facility according to Claim 1, characterised in that the length of said product support (42) is longer than the depth of the associated shelf bay (35).

28. Shelf storage facility according to Claim 1, characterised in that all product supports (42) have the same length, independently of the width of the respective shelf bay (35).

29. Shelf storage facility according to Claim 1, characterised in that the length of a product support (42) is greater than the total of at least two, preferably three, products (48) of medium size, with the dimensions of said product (48) of medium size being calculated by approximation from the mean value of the dimensions of all products (48).

30. Shelf storage facility according to Claim 29, characterised in that products (48) having the same dimensions are considered merely once in the calculation of the mean value.